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and cases of night-shirts and pajamas. I remember particularly one box of night-shirts. Each shirt had in the customary pocket a handkerchief, in which was a piece of writing-paper rolled up like a quill and tied with thread, and on each of these pieces of paper was written a text from the Bible! In one box, among a mass of old-fashioned lint and old linen and home-made jellies and preserves, was a large bouquet of dried herbs. A paper tied to it said, "Good for inflammation;" this was written with the trembling hand of some dear old lady, and one could easily imagine with what loving anxiousness she had written out the virtues of the herbs she hoped would help some sufferer.

Time and memory fail me in the effort to recall all that was so lavishly outpoured. Our afternoons were generally spent opening these boxes and putting away their contents under lock and key, as so much of it was very valuable. Every morning the head nurses came and got what they needed for their patients for the day.

(To be continued.)

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## SPECIAL POINTS IN INFANT NURSING

By GRACE PECK HASKELL

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Too much stress cannot be laid on the importance of giving sick infants adequate nourishment. They *must* be fed, and fed regularly, with a sufficient quantity of easily digested food; but sick babies refuse frequently the breast or the bottle, and the only thing to be done is to resort to gavage, or forced feeding. With babies this is done in two ways,—through the mouth, or œsophageal feeding, and through the nose, or nasal feeding. Of these two, œsophageal is to be preferred, and this is done by inserting one end of a rubber tube through the mouth into the stomach, and pouring food through it by means of a funnel attached to the other end. The articles necessary in œsophageal feeding are one rubber tube, or catheter, about No. 10 size, one glass tube about four inches long, one piece of gum tubing about one foot long, and a glass funnel. These articles are to be boiled for at least ten minutes. Before boiling join them by putting the tube of gum rubber on the funnel, and this is joined to the catheter by means of the glass tube. The food for the baby is to be heated to the required temperature, and can as easily be poured from a bottle as from any other vessel.

Wrap a blanket round the baby, confining its arms to the sides of the body, so they will not be in the way when the feeding is being done. Now wash your hands, and always remember that under no circumstances is anyone justified in inserting unwashed fingers into a baby's mouth. The above-mentioned articles are to be brought to the bed and the œsophageal tube is to be lubricated. The baby is lifted from off the bed and placed in a reclining position on the knees, the head towards the left. The index-finger of the left hand is inserted in the mouth, and with this for a guide the tube is slowly and gently pushed down the œsophagus into the stomach. As the tube hits against the back of the pharynx the baby in all probability will gag and try to vomit, but the inserting of the tube is not to be interrupted because of this. The funnel is now to be raised as far as the tube allows and the food is poured in quickly, and when the last drop has passed the glass tube which joins the œsophageal and gum tubes the œsophageal tube is to be quickly compressed near the mouth and withdrawn as quickly from the stomach. This swift withdrawal of the tube prevents nausea and vomiting. Should the baby's gums meet on the œsophageal tube the finger will have to remain in the mouth until the feeding has been given. The baby must be put back in bed as gently as possible in a horizontal position, as any other position might cause vomiting.

For nasal feeding the same apparatus is needed, excepting that a smaller catheter must be used. The same steps in the getting ready of the food are necessary and the same surgical cleanliness is to be observed. The tube is passed up one nostril to the posterior nares and from thence to the œsophagus. The food will not disappear from the funnel as quickly as with œsophageal feeding, because a smaller tube is used and there is more or less compression. This tube is to be compressed when the last drop has passed the glass tube and is to be withdrawn quickly.

Nasal feedings cannot be continued as long as œsophageal feedings, as the mucous membrane of the nose becomes irritated and inflamed after frequent passing of the tube.

Babies may struggle the first few times the nasal feeding is given, but they gradually become used to it, as the process is not painful.

There are a few congenital malformations which prevent either œsophageal or nasal feedings being given, but these, fortunately, are rare.

The time of feeding and the quantity given should be noted and the twenty-four-hour amount should be recorded. A nurse must always know just how much food is given her patient and whether it has all been retained or not. If not retained, the character and quantity of

the vomitus should be observed and reported to the attending physician.

Lavage, or irrigation of the stomach, is frequently resorted to by our present-day physicians, especially by those who make a specialty of pædiatrics, and it, in common with most things, is very easy to do, once you know how.

Two persons are needed when the necessity arises to give a baby stomach irrigation, one to hold the baby and one to do the irrigating. Needless to say, the smallest stomach-pump is not to be considered for a moment in connection with stomach irrigation for a baby, and the articles to be used are the invaluable glass funnel and soft rubber tube, which has an opening in the bottom as well as the side. In addition to the tube, a rubber cloth must be procured and a slop-jar, also a graduate and a pitcher which holds four pints. A blanket is wrapped round the baby and the rubber cloth is fastened about its neck so as to protect the whole front of the body. The person holding the baby places it in an upright position, face forward, and sits in a low chair.

Everything here, as in gavage, is made absolutely sterile by boiling. Sterilized water at a temperature of 95° F. is generally used. The tube is inserted as for an œsophageal feeding, and the water is to be poured into the funnel from a graduate, and at no time is any more water allowed to enter the stomach than the stomach normally holds. When the specified number of ounces has entered, just before the last has left the tube invert the funnel, and the contents of the stomach will siphon off. This is to be repeated until the amount ordered for the irrigation has been used. The first two washings can be preserved in the basin that held the funnel and tube. The remaining washings can be allowed to go into the slop-jar. In the first two washings will be found the contents of the stomach, and consequently these washings should be carefully examined and their character noted.

A nurse should provide herself with a table stating the capacity of a baby's stomach at different ages, and unless she knows these quantities lavage should not be attempted without the physician specifying the exact amount to enter the stomach at one time. It is very easy to dilate the stomach of an infant.

An average infant of twelve months can easily take ten ounces of milk, and the quantity lessens the younger the baby. A baby of eight months can take seven ounces, of six months five ounces, while an infant of two months can take three and one-half ounces.

Of course, if the stomach can hold a certain amount of food, it can hold that much water, although some special cases require special

quantities, but when this is so the physician tells the nurse exactly what he requires her to do.

#### HIGH IRRIGATION.

To give a high irrigation of the bowels to an infant, procure a rubber catheter No. 10, a glass funnel, a six-ounce graduate, a pitcher that holds at least two quarts, vaseline, a square of mackintosh, and a few towels, together with a slop-jar or a basin and a pillow. An improvised Kelly pad can be made of the mackintosh and towels, and this pad is to be placed on the pillow on a table with the broad part of the pad pulled well down to the edge and the flap hanging over into the slop-jar. A hot-water bag is to be placed over the pad and kept there until other preparations are completed, and when all is ready the bag is to be removed. This is done in order to prevent the under skin of the baby coming in contact with a cold surface.

The solutions most frequently used for bowel irrigation are boric acid solution and bicarbonate of soda solution in varying proportions. Whatever solution is used, it should be heated to a temperature of 100° F. and poured into the pitcher. The tube and funnel must be sterilized.

The baby should have all clothes removed and a warm blanket wrapped round the upper part of the body. The legs should be covered with a towel. The baby is to be placed on its left side on the pad, leaving the buttocks bare, and everything required should be in easy reaching distance. The baby's feet are to be kept out of the way by pinning the towel with which they are covered to the blanket around the body.

Lubricate the catheter, which has been kept warm by the water in which it was boiled, with vaseline, and insert very slowly. At the first introduction the baby will try to force it out from the rectum. Wait until the desire to expel it has passed, then push it in still farther. When in about three inches, hold it there with the left hand, which also can support the funnel, that is on the free end of the catheter, in an upright position. Pour about three ounces of the solution from the pitcher into the graduate. The solution is then poured into the funnel, which is raised enough to allow the fluid to flow in gently, so there will be no sudden distention of the bowel. The baby will retain this hardly long enough to allow the catheter to be withdrawn, and with the solution expelled will come the greater part of the contents of the rectum. The expulsion is usually very forcible, consequently the floor should be protected by several thicknesses of newspaper. The catheter is now to be reinserted, and if no obstruction be met, push it in for about five inches. Four ounces of the solution can now be given, and this will

be immediately expelled. The third time, however, the catheter can be inserted farther and more solution can be used. This time do not withdraw the tube, but when the bowel seems much distended or the solution flows out past the tube, invert the funnel and allow it to flow out that way. This does away with the frequent reinserting of the tube, which causes more or less irritation. This process is to be repeated until all the solution is used. Babies are usually quiet under this treatment, and when a high irrigation is used great relief from the symptoms which indicated its use is obtained.

The tube must *never* be forcibly inserted. If an obstruction be met, draw it out a little and reinsert. The baby must be allowed to rest quietly after each irrigation.

The washings from the bowel should be strained through a piece of gauze, and what does not pass through should be saved for the physician's examination. The nurse must make a note of all she has been able to observe during the irrigation and the subsequent examination of the fæces.

#### LUMBAR PUNCTURE.

To prepare an infant for a lumbar puncture requires but little care and few articles. A nurse must first procure a large hypodermic syringe—the kind frequently used in exploratory puncture—and a needle of corresponding size. These, together with a test-tube, are to be boiled for fifteen minutes. Soap and water, alcohol, ether, one package of sterile sponges, collodion, one brush, and a pair of sterile scissors in a tray are to be procured and brought to a table. Place the baby in its usual gown on the left side on the table. Roll the gown up over the baby's head and unfasten and push down the napkin. After thoroughly sterilizing her hands, a nurse proceeds to make sterile all that surface of the back from the twentieth to the twenty-fourth vertebra, inclusive. After sterilizing this, the syringe is to be brought in and put together and passed to the doctor. After the puncture has been made and as much fluid withdrawn as is necessary, the nurse holds the test-tube ready for its reception. A pledget of sterile cotton must then be inserted in the neck of the tube. When the needle is withdrawn a sterile sponge must be ready to hold over the puncture. The nurse now cuts a very small, round piece of gauze, which is placed over the puncture and covered with collodion. The baby is now ready to be put back in bed. After four or five days the collodion dressing can be removed permanently.

It has not been my intention in writing the above to give a list of symptoms or diseases which call for gavage or lavage. When a baby is sick enough to require either, most certainly he is sick enough to

require the attention of a physician, and the nurse can learn from his diagnosis and her own observations the symptoms which indicate their use. This same is also true of high irrigation of the bowel and lumbar puncture.

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## NURSING IN SOUTH AFRICA DURING THE BOER WAR, 1899-1900 \*

By GEORGINA FANE POPE, C. N. R.

READING as a young girl a most interesting account of Miss Florence Nightingale's noble work during the Crimean War, I became filled with the desire to become an "army nursing sister" and go to the front. England being happily at peace, and I much under age, I was obliged to moderate my ardor; but with the main hope still uppermost, a few years afterwards I entered the training-school for nurses attached to Bellevue Hospital, New York. Fourteen years later—viz.: October, 1899—I received my appointment, with three other nurses, to go out with the Canadian Contingent then called to active service in South Africa—thus realizing my early aspirations.

Upon our arrival at Cape Town we found our troops had orders to proceed up country immediately. We reported to the principal medical officer, making every effort to be allowed to accompany them to the front, but this we were told was impossible, as no nursing sisters could be accommodated in the field hospitals. So with very disconsolate feelings we saw our countrymen entrain without us, and came to realize at that early date what served us in good stead later, viz.: that we too were soldiers, to do as we were told and go where we were sent. Later in the day we received orders to proceed to Wynberg for duty in the large base hospital there, called No. 1 General. These general hospitals, of which there were thirteen or more, were most complete. They were, as a rule, under canvas, and contained from six hundred to one thousand beds. They left England with a staff of surgeons, sisters, trained orderlies, etc., and a full equipment of everything needful, including the comfortable blue flannel hospital kit that "Tommy Atkins" wears during convalescence.

No. 1 General was placed at Wynberg Barracks and numbered about one thousand beds. No. 2 was pitched under canvas, also at Wynberg, and No. 3 at Rondebosch, about six miles away, close to Mr. Cecil Rhodes's

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